

Amendment to the Claims:

Please amend the claims as follows:

Please cancel claims 92, 132, 133, 138, 141, 143, 240 to 242, without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An isolated, synthetic or recombinant nucleic acid comprising:

(a) a nucleic acid sequence encoding a polypeptide having alpha amylase activity, wherein the nucleic acid sequence has at least 95% [[90%]] sequence identity to the sequence of SEQ ID NO:125,

(b) a nucleic acid sequence encoding a polypeptide having alpha amylase activity, wherein the polypeptide comprises (i) an amino acid sequence having at least 95% [[90%]] sequence identity to the sequence of SEQ ID NO:126, or (ii) enzymatically active fragments of (i);

(c) the nucleic acid of (a) or (b) encoding a polypeptide having at least one conservative amino acid substitution as compared to the polypeptide encoded by (a) or (b), wherein the conservative amino acid substitutions comprise ~~comprising~~: replacement of an aliphatic amino acid with another aliphatic amino acid; replacement of a Serine with a Threonine or vice versa; replacement of an acidic residue with another acidic residue; replacement of a residue bearing an amide group with another residue bearing an amide group; exchange of a basic residue with another basic residue; or replacement of an aromatic residue with another aromatic residue;

(d) the nucleic acid of (a), (b) or (c) encoding a polypeptide lacking a signal sequence;

(e) the nucleic acid of (a), (b), (c) or (d) further comprising a heterologous sequence;

(f) the nucleic acid of (e), wherein the heterologous sequence comprises a sequence encoding a heterologous signal sequence;

(g) the nucleic acid of (e), wherein the heterologous sequence comprises a sequence encoding an N-terminal identification peptide; or

(h) sequences completely complementary to (a), (b), (c), (d), (e), (f) or (g).

Claim 2 (previously presented): An isolated, synthetic or recombinant nucleic acid that hybridizes under stringent conditions to SEQ ID NO:125, or its complement, wherein the nucleic acid comprises a sequence selected from the group consisting of:

(a) a nucleic acid sequence encoding a polypeptide having alpha amylase activity, wherein the nucleic acid sequence has at least 90% sequence identity to the sequence of SEQ ID NO:125, or its complement;

(b) a nucleic acid sequence (i) encoding a polypeptide having alpha amylase activity, wherein the polypeptide comprises (A) an amino acid sequence having at least 90% sequence identity to the sequence of SEQ ID NO:126, or (B) enzymatically active fragments of (A), or (ii) completely complementary to (i);

(c) the nucleic acid of (a) or (b) encoding a polypeptide lacking a signal sequence;

(d) the nucleic acid of (a), (b) or (c) further comprising a heterologous sequence;

(e) the nucleic acid of (d), wherein the heterologous sequence comprises a sequence encoding a heterologous signal sequence;

(f) the nucleic acid of (e), wherein the heterologous sequence comprises a sequence encoding an N-terminal identification peptide; and

(g) sequences completely complementary to (a), (b), (c), (d), (e) or (f);

wherein the stringent conditions comprise a wash step comprising 30 minutes at room temperature in a solution comprising 150 mM NaCl, 20 mM Tris hydrochloride, pH 7.8, 1 mM Na₂EDTA, 0.5% SDS, followed by a 30 minute wash in fresh solution at T_m-10°C.

Claim 3 (previously presented): An isolated, synthetic or recombinant nucleic acid encoding a polypeptide having alpha amylase activity that hybridizes under stringent conditions to a sequence selected from the group consisting of: (a) the sequence of SEQ ID NO:125; (b) a sequence encoding a polypeptide having the sequence of SEQ ID NO:126; and, (c) sequences completely complementary to (a) or (b);

wherein the stringent conditions comprise a wash step comprising 30 minutes at room temperature in a solution comprising 150 mM NaCl, 20 mM Tris hydrochloride, pH 7.8, 1 mM

Na₂EDTA, 0.5% SDS, followed by a 30 minute wash in fresh solution at T_m-10°C, and wherein the sequence encodes a polypeptide having alpha amylase activity.

Claim 4 (previously presented): The isolated, synthetic or recombinant nucleic acid of claim 2 or claim 3, wherein the $T_m = 81.5 + 16.6(\log [Na^+]) + 0.41(\text{fraction G+C}) - (0.63\% \text{ formamide}) - (600/N)$ where N is the length of the nucleic acid.

Claim 5 (canceled)

Claim 6 (currently amended): The isolated, synthetic or recombinant nucleic acid of ~~claim 1~~ or claim 2, wherein the nucleic acid sequence identity is determined by using a method comprising use of a BLASTN program algorithm with default parameters or the polypeptide sequence identity is determined by using a method comprising use of a BLAST P program algorithm with default parameters.

Claims 7 to 13 (canceled)

Claim 14 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 1, wherein the sequence identity of (a) or (b) is at least ~~about~~ 97%.

Claim 15 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 2 ~~[[1]]~~, wherein the sequence identity of (a) or (b) is at least ~~about~~ 95%.

Claim 16 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 1 ~~or claim 2~~, wherein the sequence identity is determined using a sequence comparison algorithm comprising FASTA version 3.0t78 with the default parameters.

Claim 17 (currently amended): A probe comprising the nucleic acid of a ~~sequence claim 1~~ or claim 2, wherein the probe can hybridize to an amylase encoding gene under stringent conditions comprising a wash step comprising a wash for 30 minutes at room temperature in a solution

comprising 150 mM NaCl, 20 mM Tris hydrochloride, pH 7.8, 1 mM Na₂EDTA, 0.5% SDS, followed by a 30 minute wash in fresh solution.

Claims 18 to 46 (canceled)

Claim 47 (currently amended): A method of producing a polypeptide having (i) an amino acid sequence having at least ~~about~~ 90% sequence identity to the amino acid sequence of SEQ ID NO:126, or (ii) enzymatically active fragments of (i), comprising the steps of introducing a nucleic acid encoding the polypeptide into a host cell under conditions that allow expression of the polypeptide, wherein the expressed polypeptide has alpha amylase activity.

Claim 48 (currently amended): A method of producing a polypeptide having amylase activity, comprising the steps of: providing the amylase-encoding [[a]] nucleic acid ~~having the nucleic acid sequence~~ of claim 1; and introducing the nucleic acid encoding the polypeptide, operably linked to a promoter, into a host cell under conditions that allow expression of the polypeptide.

Claims 49 to 73 (canceled)

Claim 74 (withdrawn – currently amended): An assay for identifying a polypeptide having amylase activity comprising the steps of:

- (a) providing the [[a]] nucleic acid of ~~as set forth in claim 2~~ [[1]];
- (b) expressing the nucleic acid to provide a polypeptide;
- (c) contacting the polypeptide, with a substrate molecule under conditions which allow the polypeptide to function; and
- (d) detecting either a decrease in an amount of a substrate or an increase in an amount of a reaction product which results from a reaction ~~between~~ said polypeptide and said substrate; wherein a decrease in the amount of the substrate or an increase in the amount of the reaction product is indicative of existence of the functional polypeptide.

Claim 75 (currently amended): A nucleic acid probe for identifying or isolating an amylase-encoding gene, comprising the nucleic acid of claim 1 ~~an oligonucleotide which hybridizes under stringent conditions to SEQ ID NO:125 and the stringent hybridization conditions comprise a wash step comprising a wash for 30 minutes at room temperature in a solution comprising 150 mM NaCl, 20 mM Tris hydrochloride, pH 7.8, 1 mM Na₂EDTA, 0.5% SDS, followed by a 30 minute wash in fresh solution.~~

Claim 76 (previously presented): The nucleic acid probe of claim 75, wherein the oligonucleotide comprises DNA or RNA.

Claims 77 to 87 (canceled)

Claim 88 (previously presented): The nucleic acid probe of claim 75, wherein the probe further comprises a detectable isotopic label.

Claim 89 (previously presented): The nucleic acid probe of claim 75, wherein the probe further comprises a detectable non-isotopic label selected from the group consisting of a fluorescent molecule, a chemiluminescent molecule, an enzyme, a cofactor, an enzyme substrate, and a hapten.

Claims 90 to 101 (currently amended)

Claim 102 (currently amended): A cloning vector comprising a nucleic acid sequence that encodes a polypeptide having alpha amylase activity, said nucleic acid sequence comprising the ~~[[a]] nucleic acid sequence as set forth in~~ of claim 2.

Claim 103 (currently amended): An isolated or cultured ~~[[A]]~~ host cell comprising a nucleic acid ~~having a sequence~~ that encodes a polypeptide having alpha amylase activity, said nucleic acid sequence comprising the ~~[[a]] nucleic acid sequence as set forth in~~ of claim 2.

Claim 104 (currently amended): An expression ~~or cloning~~ vector ~~capable of replicating in a host cell~~ comprising the nucleic acid of a polynucleotide having a sequence as set forth in claim 2.

Claim 105 (currently amended): ~~The [[A]] vector of as claimed in claim 102,~~ wherein the vector is selected from the group consisting of viral vectors, plasmid vectors, phage vectors, phagemid vectors, cosmids, fosmids, bacteriophages, artificial chromosomes, adenovirus vectors, retroviral vectors, and adeno-associated viral vectors.

Claim 106 (currently amended): An isolated or cultured [[A]] host cell comprising the an expression vector of ~~as claimed in claim 102~~ [[104]].

Claim 107 (currently amended): The isolated or cultured [[A]] host cell of ~~as claimed in claim 103,~~ wherein the host is selected from the group consisting of prokaryotes, eukaryotes, fungi, yeasts, and plants.

Claim 108 (withdrawn – currently amended): A method for liquifying a starch containing composition comprising contacting the starch with a polypeptide encoded by a nucleic acid comprising the [[a]] nucleic acid sequence as set forth in of claim 1.

Claims 109 to 111 (canceled)

Claim 112 (withdrawn – currently amended): A method for washing an object comprising contacting said object with a polypeptide encoded by a nucleic acid comprising the [[a]] nucleic acid sequence as set forth in of claim 1, under conditions sufficient for said washing.

Claim 113 (withdrawn – currently amended): A method for textile desizing comprising contacting said textile with a polypeptide encoded by a nucleic acid comprising the [[a]] nucleic acid sequence as set forth in of claim 1, under conditions sufficient for said desizing.

Claim 114 (withdrawn – currently amended): A method for the treatment of lignocellulosic fibers, wherein the fibers are treated with a polypeptide encoded by a nucleic acid comprising the [[a]] nucleic acid sequence as set forth in of claim 1, in an amount which is efficient for improving the fiber properties.

Claim 115 (withdrawn – currently amended): A method according to claim 113 for enzymatic deinking of recycled paper pulp, wherein the polypeptide encoded by a nucleic acid comprising the [[a]] nucleic acid sequence as set forth in of claim 1 is applied in an amount which is efficient for effective deinking of the fiber surface.

Claim 116 (withdrawn – currently amended): A method for starch liquefaction comprising contacting said starch with a polypeptide encoded by a nucleic acid comprising the [[a]] nucleic acid sequence as set forth in of under conditions sufficient for said liquefaction.

Claim 117 (canceled)

Claim 118 (withdrawn – currently amended): A method for producing a high-maltose or a high-glucose syrup or a mixed syrup comprising:

liquefying starch using an effective amount of a polypeptide encoded by a nucleic acid comprising the [[a]] nucleic acid sequence as set forth in of claim 1 to obtain a soluble starch hydrolysate; and

saccharifying the soluble starch hydrolysate, thereby resulting in a syrup.

Claim 119 (withdrawn): The method of claim 118, wherein the starch is from a material selected from rice, germinated rice, corn, barley, wheat, legumes and sweet potato.

Claim 120 (withdrawn): The method of claim 118, further comprising addition of a second alpha amylase or a beta amylase or a combination thereof.

Claim 121 (withdrawn - currently amended): A method of increasing the flow of production fluids from a subterranean formation by removing a viscous, starch-containing, damaging fluid formed during production operations and found within the subterranean formation which surrounds a completed well bore comprising:

- allowing production fluids to flow from the well bore;
- reducing the flow of production fluids from the formation below expected flow rates;
- formulating an enzyme treatment by blending together an aqueous fluid and a polypeptide encoded by a nucleic acid comprising ~~the [[a]] nucleic acid sequence as set forth in~~ claim 1;
- pumping the enzyme treatment to a desired location within the well bore;
- allowing the enzyme treatment to degrade the viscous, starch-containing, damaging fluid, whereby the fluid can be removed from the subterranean formation to the well surface; and
- wherein the enzyme treatment is effective to attack the alpha glucosidic linkages in the starch-containing fluid.

Claim 122 (previously presented): The method of claim 47, wherein the method produces a polypeptide having (i) an amino acid sequence having at least 97% sequence identity to the amino acid sequence of SEQ ID NO:126, or (ii) enzymatically active fragments of (i).

Claim 123 (canceled)

Claim 124 (previously presented): The method of claim 47, wherein the polypeptide sequence identity is determined by using a method comprising use of a BLAST P algorithm with default parameters.

Claims 125 to 129 (canceled)

Claim 130 (currently amended): A method of producing a polypeptide encoded by ~~the [[a]] nucleic acid having at least 90% sequence identity to the nucleic acid sequence of claim 1 SEQ ID NO:125,~~ comprising the steps of introducing the [[a]] nucleic acid encoding the polypeptide into a

host cell under conditions that allow expression of the polypeptide, wherein the expressed polypeptide has alpha amylase activity.

Claim 131 (currently amended): A method of producing a polypeptide encoded by the [[a]] nucleic acid of claim 2, comprising the steps of introducing a nucleic acid encoding the polypeptide into a host cell under conditions that allow expression of the polypeptide, wherein the expressed polypeptide has alpha amylase activity.

Claims 132 and 133 (canceled)

Claim 134 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 1, wherein the sequence identity of (a) or (b) is at least ~~about~~ 98%.

Claim 135 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 1, wherein the sequence identity of (a) or (b) is at least ~~about~~ 99%.

Claims 136 and 138 (canceled)

Claim 139 (currently amended): A cloning or expression vector comprising a sequence that encodes a polypeptide having alpha amylase activity, said sequence comprising the [[a]] nucleic acid sequence of claim 1.

Claim 140 (currently amended): An isolated or cultured [[A]] host cell comprising a nucleic acid having a sequence that encodes a polypeptide having alpha amylase activity, said sequence comprising the [[a]] nucleic acid sequence of claim 1.

Claim 141 (canceled)

Claim 142 (previously presented): The cloning or expression vector of claim 139, wherein the vector is selected from the group consisting of viral vectors, plasmid vectors, phage vectors,

phagemid vectors, cosmids, fosmids, bacteriophages, artificial chromosomes, adenovirus vectors, retroviral vectors, and adeno-associated viral vectors.

Claim 143 (canceled)

Claim 144 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 2 ~~[[143]]~~, wherein the sequence identity in (a) or (b) is 97%.

Claim 145 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 144 ~~[[143]]~~, wherein the sequence identity in (a) or (b) is 98%.

Claim 146 (currently amended): The isolated, synthetic or recombinant nucleic acid of claim 145 ~~[[143]]~~, wherein the sequence in (a) is SEQ ID NO:125, and the sequence in (b) is SEQ ID NO:126.

Claim 147 (withdrawn - currently amended): A method for producing a feed or food comprising a recombinant amylase, the method comprising the steps of:

- (a) providing the amylase-encoding ~~[[a]]~~ nucleic acid ~~of comprising a sequence as set forth in claim 2~~ ~~[[1]]~~;
- (b) providing a composition comprising a feed or food;
- (c) expressing the nucleic acid to produce a recombinant amylase; and
- (d) mixing the recombinant amylase and the feed-comprising or food-comprising composition, thereby producing a feed or food comprising a recombinant amylase.

Claim 148 (withdrawn - currently amended): A method of hydrolyzing a starch linkage comprising

- (i) (a) providing an amylase polypeptide encoded by the amylase-encoding nucleic acid of claim 2, and a substance comprising a starch linkage; and

~~(b) contacting the [[a]] substance containing the starch with the amylase [[a]] polypeptide having amylase activity encoded by a nucleic acid of claim 1, under conditions which facilitate the hydrolysis of the starch linkage by the amylase polypeptide,~~

~~(ii) the method of (i), wherein optionally the starch is isolated or derived from rice, germinated rice, corn, barley, wheat, legumes, sweet potato, milo, sorghum, rye, bulger or a combination thereof, or~~

~~(iii) the method of (i) or (ii), wherein and optionally the method further comprises addition of a second amylase, an alpha amylase or a beta amylase or a combination thereof.~~

Claim 149 (withdrawn - currently amended): A method of catalyzing the breakdown of a starch, comprising the step of

(i) (a) providing an amylase polypeptide encoded by the amylase-encoding nucleic acid of claim 2, and a substance comprising a starch linkage; and

~~(b) contacting the substance a sample containing starch with [[a]] the amylase polypeptide having amylase activity encoded by a nucleic acid of claim 1, under conditions which facilitate the breakdown of the starch by the amylase polypeptide,~~

~~(ii) the method of (i), wherein optionally the starch is isolated or derived from rice, germinated rice, corn, barley, wheat, legumes, sweet potato, milo, sorghum, rye, bulger or a combination thereof, or~~

~~(iii) the method of (i) or (ii), wherein and optionally the method further comprises addition of a second amylase, an alpha amylase or a beta amylase or a combination thereof.~~

Claim 150 (withdrawn - currently amended): A method for making an alcohol comprising contacting a starch-comprising composition with a polypeptide having amylase activity encoded by the amylase-encoding [[a]] nucleic acid of claim 2 [[1]].

Claim 151 (withdrawn - currently amended): The method of claim 150, wherein the method further comprises contacting the starch-comprising composition with a second polypeptide having amylase activity, or a polypeptide having an alpha amylase activity, or a polypeptide having a beta amylase, or another enzyme.

Claim 152 (withdrawn): The method of claim 150, wherein the alcohol comprises a fuel ethanol.

Claim 153 (withdrawn - currently amended): A corn wet milling process comprising use of a polypeptide having amylase activity, wherein the polypeptide is encoded by the amylase-encoding [[a]] nucleic acid of claim 2 [[1]].

Claim 154 (withdrawn - currently amended): The corn wet milling process of claim 153 [[152]], wherein the process further comprises use of a second polypeptide having amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 155 (withdrawn - currently amended): A baking process comprising use of a polypeptide having alpha amylase activity, wherein the polypeptide having amylase activity is encoded by the amylase-encoding [[a]] nucleic acid of claim 2 [[1]].

Claim 156 (withdrawn): The baking process of claim 155, wherein the baking process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 157 (withdrawn - currently amended): A drilling process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the amylase-encoding [[a]] nucleic acid of claim 2 [[1]].

Claim 158 (withdrawn): The drilling process of claim 157, wherein the drilling process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 159 (withdrawn - currently amended): A brewing process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the amylase-encoding [[a]] nucleic acid of claim 2 [[1]].

Claim 160 (withdrawn): The brewing process of claim 159, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 161 (withdrawn - currently amended): A method for textile processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the amylase-encoding **[[a]]** nucleic acid of claim 2 **[[1]]**.

Claim 162 (withdrawn): The method for textile processing of claim 161, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 163 (withdrawn - currently amended): A method for paper or pulp, or recycled paper or recycled pulp, processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the amylase-encoding **[[a]]** nucleic acid of claim 2 **[[1]]**.

Claim 164 (withdrawn): The method for paper or pulp processing of claim 163, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 165 (withdrawn - currently amended): A method for making a beverage comprising a polypeptide having amylase activity, wherein the polypeptide having alpha amylase activity is encoded by the amylase-encoding **[[a]]** nucleic acid of claim 2 **[[1]]**.

Claim 166 (withdrawn): The method for making a beverage of claim 165, further comprising a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claims 167 to 175 (canceled)

Claim 176 (withdrawn - currently amended): A method for producing a feed or food comprising a recombinant amylase, the method comprising the steps of:

- (a) providing the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2;
- (b) providing a composition comprising a feed or food;
- (c) expressing the nucleic acid to produce a recombinant amylase; and
- (d) mixing the recombinant amylase and the feed-comprising or food-comprising composition, thereby producing a feed or food comprising a recombinant amylase.

Claim 177 (withdrawn - currently amended): A method of hydrolyzing a starch linkage comprising contacting a substance containing the starch with a polypeptide having amylase activity encoded by the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2, under conditions which facilitate the hydrolysis of the starch linkage,

wherein optionally the starch is isolated or derived from rice, germinated rice, corn, barley, wheat, legumes, sweet potato, milo, sorghum, rye, bulger or a combination thereof,

and optionally the method further comprises addition of a second amylase, an alpha amylase or a beta amylase or a combination thereof.

Claim 178 (withdrawn - currently amended): A method of catalyzing the breakdown of a starch, comprising the step of contacting a sample containing starch with a polypeptide having amylase activity encoded by the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2, under conditions which facilitate the breakdown of the starch,

wherein optionally the starch is isolated or derived from rice, germinated rice, corn, barley, wheat, legumes, sweet potato, milo, sorghum, rye, bulger or a combination thereof,

and optionally the method further comprises addition of a second amylase, an alpha amylase or a beta amylase or a combination thereof.

Claim 179 (withdrawn - currently amended): A method for making an alcohol comprising contacting a starch-comprising composition with a polypeptide having amylase activity encoded by the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 180 (withdrawn): The method of claim 179, wherein the method further comprises contacting the starch-comprising composition with a second polypeptide having amylase activity, or an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 181 (withdrawn): The method of claim 179, wherein the alcohol comprises a fuel ethanol.

Claim 182 (withdrawn - currently amended): A corn wet milling process comprising use of a polypeptide having amylase activity, wherein the polypeptide is encoded by the [[a]] nucleic acid of claim 1.

Claim 183 (withdrawn): The corn wet milling process of claim 182, wherein the process further comprises use of a second polypeptide having amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 184 (withdrawn - currently amended): A baking process comprising use of a polypeptide having alpha amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 185 (withdrawn): The baking process of claim 184, wherein the baking process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 186 (withdrawn - currently amended): A drilling process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 187 (withdrawn): The drilling process of claim 186, wherein the drilling process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 188 (withdrawn - currently amended): A brewing process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 189 (withdrawn): The brewing process of claim 188, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 190 (withdrawn - currently amended): A method for textile processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 191 (withdrawn): The method for textile processing of claim 190, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 192 (withdrawn - currently amended): A method for paper or pulp processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 193 (withdrawn): The method for paper or pulp processing of claim 192, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 194 (withdrawn - currently amended): A method for making a beverage comprising a polypeptide having amylase activity, wherein the polypeptide having alpha amylase activity is encoded by the [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 195 (withdrawn): The method for making a beverage of claim 194, further comprising a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 196 (withdrawn - currently amended): A method for making a food or feed additive comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim ~~1~~ **or claim 2**.

Claim 197 (withdrawn): A dry milling process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid comprising the sequence of claim ~~1~~ **or claim 2**.

Claim 198 (withdrawn - currently amended): A method of making a fuel ethanol comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim ~~1~~ **or claim 2**.

Claim 199 (withdrawn): An oilfield process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim ~~1~~ **or claim 2**.

Claim 200 (withdrawn): A feed or food production process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid comprising the sequence of claim ~~1~~ **or claim 2**.

Claim 201 (withdrawn - currently amended): A method for deinking recycled paper, pulp or fiber comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim ~~1~~ **or claim 2**.

Claim 202 (withdrawn - currently amended): A baking process comprising use of a polypeptide having alpha amylase activity, wherein the polypeptide having amylase activity is encoded by the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 203 (withdrawn): The baking process of claim 202, wherein the baking process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 204 (withdrawn - currently amended): A drilling process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 205 (withdrawn): The drilling process of claim 204, wherein the drilling process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 206 (withdrawn - currently amended): A brewing process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 207 (withdrawn): The brewing process of claim 206, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 208 (withdrawn - currently amended): A method for textile processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the ~~the~~ [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 209 (withdrawn): The method for textile processing of claim 208, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 210 (withdrawn - currently amended): A method for paper or pulp processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the ~~[[a]]~~ nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 211 (withdrawn): The method for paper or pulp processing of claim 210, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 212 (withdrawn - currently amended): A method for making a beverage comprising a polypeptide having amylase activity, wherein the polypeptide having alpha amylase activity is encoded by a nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 213 (withdrawn): The method for making a beverage of claim 212, further comprising a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 214 (withdrawn - currently amended): A baking process comprising use of a polypeptide having alpha amylase activity, wherein the polypeptide having amylase activity is encoded by the ~~[[a]]~~ nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 215 (withdrawn): The baking process of claim 214, wherein the baking process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 216 (withdrawn - currently amended): A drilling process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid comprising the sequence of claim 2.

Claim 217 (withdrawn): The drilling process of claim 216, wherein the drilling process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 218 (withdrawn - currently amended): A brewing process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid comprising the sequence of claim 2.

Claim 219 (withdrawn): The brewing process of claim 218, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 220 (withdrawn - currently amended): A method for textile processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid comprising the sequence of claim 2.

Claim 221 (withdrawn): The method for textile processing of claim 220, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 222 (withdrawn - currently amended): A method for paper or pulp processing comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the [[a]] nucleic acid comprising the sequence of claim 2.

Claim 223 (withdrawn): The method for paper or pulp processing of claim 222, wherein the process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 224 (withdrawn - currently amended): A method for making a beverage comprising a polypeptide having amylase activity, wherein the polypeptide having alpha amylase activity is encoded by the [[a]] nucleic acid ~~comprising the sequence~~ of claim 2.

Claim 225 (withdrawn): The method for making a beverage of claim 224, further comprising a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 226 (withdrawn - currently amended): A method for producing a feed or food comprising a recombinant amylase, the method comprising ~~the steps of:~~

(a) providing a nucleic acid comprising the nucleic acid of a sequence as set forth in claim 3;

- (b) providing a composition comprising a feed or food;
- (c) expressing the nucleic acid to produce a recombinant amylase; and
- (d) mixing the recombinant amylase and the feed-comprising or food-comprising composition, thereby producing a feed or food comprising a recombinant amylase.

Claim 227 (withdrawn - currently amended): A method of hydrolyzing a starch linkage comprising contacting a substance ~~comprising a~~ containing the starch with a polypeptide having amylase activity encoded by the [[a]] nucleic acid of claim 3, under conditions which facilitate the hydrolysis of the starch linkage,

wherein optionally the starch is isolated or derived from rice, germinated rice, corn, barley, wheat, legumes, sweet potato, milo, sorghum, rye, bulgur or a combination thereof,

and optionally the method further comprises addition of a second amylase, an alpha amylase or a beta amylase or a combination thereof.

Claim 228 (withdrawn - currently amended): A method of catalyzing the breakdown of a starch, comprising the step of contacting a sample ~~comprising a~~ ~~containing~~ starch with a polypeptide having amylase activity encoded by the [[a]] nucleic acid of claim 3, under conditions which facilitate the breakdown of the starch,

wherein optionally the starch is isolated or derived from rice, germinated rice, corn, barley, wheat, legumes, sweet potato, milo, sorghum, rye, bulger or a combination thereof,

and optionally the method further comprises addition of a second amylase, an alpha amylase or a beta amylase or a combination thereof.

Claim 229 (withdrawn - currently amended): A method for making an alcohol comprising contacting a starch-comprising composition with a polypeptide having amylase activity encoded by the [[a]] nucleic acid of claim 3.

Claim 230 (withdrawn): The method of claim 229, wherein the method further comprises contacting the starch-comprising composition with a second polypeptide having amylase activity, or an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 231 (withdrawn): The method of claim 229, wherein the alcohol comprises a fuel ethanol.

Claim 232 (withdrawn - currently amended): A corn wet milling process comprising use of a polypeptide having amylase activity, wherein the polypeptide is encoded by the [[a]] nucleic acid of claim 3.

Claim 233 (withdrawn): The corn wet milling process of claim 232, wherein the process further comprises use of a second polypeptide having amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 234 (withdrawn - currently amended): A method for making a food or feed additive comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim 3.

Claim 235 (withdrawn - currently amended): A dry milling process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim 3.

Claim 236 (withdrawn - currently amended): A method of making a fuel ethanol comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim 3.

Claim 237 (withdrawn - currently amended): An oilfield process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim 3.

Claim 238 (withdrawn - currently amended): A feed or food production process comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim 3.

Claim 239 (withdrawn - currently amended): A method for deinking recycled paper, pulp or fiber comprising use of a polypeptide having amylase activity, wherein the polypeptide having amylase activity is encoded by the **[[a]]** nucleic acid ~~comprising the sequence~~ of claim 3.

Claims 240 to 242 (canceled)